



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,188	11/25/2003	John Jeffrey Waldman	772490100035	7924

7590 07/14/2004  
Lorri W. Cooper  
Jones Day  
North Point, 901 Lakeside Avenue  
Cleveland, OH 44114

EXAMINER

SALDANO, LISA M

ART UNIT	PAPER NUMBER
----------	--------------

3673

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/722,188	Applicant(s) WALDMAN ET AL.	
	Examiner Lisa M. Saldano	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/25/2003</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 26 are objected to because of the following informalities:

Regarding claim 1, the claim contains two periods at the end of the sentence.

Regarding claim 26, the last line, the applicant recites limitations directed to "the first height." Prior language from which this claim depends does not mention a first height. This limitation lacks prior basis. Please clarify.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Carson (2,292,509).

Regarding claim 1, Carson discloses a valve for liquid containers comprising a container 6 having an outlet pipe 16, an inlet pipe 1 and a closed bottom surface (see Fig.5). Carson also

Art Unit: 3673

discloses a hollow ball or float 30 that rises and falls in response to the level of water within the container. Carson further discloses a disk valve 18 inside the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

Regarding claim 2, Carson discloses a valve for liquid containers as described above wherein the inlet and outlet pipes are positioned in the same plane and the valve 18 is positioned at a height spaced from the closed bottom surface of the container or box 6.

4. Claims 1, 3, 15, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark (5,348,041).

Regarding claim 1, Clark discloses a separator valve for control of liquid comprising a container 2 having an inlet 100, an outlet 5 and a closed bottom surface 101 (see Fig.1). Clark further discloses a primary float 1 that rises and falls in response to liquid level in the container. Clark further discloses a valve disk 13 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

Regarding claim 3, Clark discloses the separator valve as described above wherein an inlet dimension is smaller than an outlet dimension (see Fig.1).

Regarding claim 15, Clark discloses that the separator valve as described above may be adapted to be used in conjunction with holding tanks, catch basins and the like (see column 10, lines 65-69).

Regarding claim 20, Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids from liquids in the container because the solids will naturally sink to the bottom of the container 2 upon entering via the inlet 100. This is inherent and explained by the common law of physics regarding gravitational forces.

Regarding claim 21, Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids and liquids from a base liquid with denser liquids and solids sinking to the bottom and less dense liquids floating to the top. Again, this is inherent and explained by the common law of physics regarding gravitational forces. Furthermore, Clark states that the invention is used to control unwanted discharge of liquids less dense than water that may be present in wastewater flows (see abstract).

5. Claims 1, 4, 9-14, 18 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Schafer et al (4,621,945).

Regarding claim 1, Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al also disclose a float 42 and a valve 18 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

Regarding claims 4 and 22, Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2).

Regarding claim 9, Schafer et al disclose a head control stand as described above wherein the flapper includes a hinge at nut-bolt assemblies 36 and is coupled to the float at another end by bracket 46. The flapper is flexible and forms a living hinge, wherein a living hinge as specified by the applicant on page 9 of the present application, is integral and flexible.

Regarding claim 10, Schafer et al disclose a head control stand as described above wherein the flapper 32 is oriented in a recumbent position within the riser container. Note that the definition of recumbent relied upon for claim interpretation was taken from the *Merriam-Webster Collegiate-Dictionary, 10<sup>th</sup> Edition*, wherein recumbent is defined as leaning or resting.

Regarding claims 11, 12 and 23, Schafer et al disclose a head control stand as described above wherein the flapper 32 leans or rests upon plate 30 in the riser and the recumbent or leaning position of the flapper ranges from horizontal to about 60 degrees relative to a horizontal as one end of the flapper leans upon the plate and another end of the flapper rises due to upward motion of the float 42 (see Fig.3).

Regarding claim 13, Schafer et al disclose a head control stand as described above wherein liquid flows in a longitudinal direction of irrigation tile system pipe 14, which is in a direction that is substantially perpendicular to a movement direction of the flapper valve when the flapper rises due to upward motion of the float 42.

Regarding claim 14, Schafer et al disclose a head control stand as described above comprising a metering plate 30 that includes apertures and can function as a vortex plate by

Art Unit: 3673

breaking up any vortices that are formed in the output flow as liquid enters the outlet side at downstream section 24b of the container.

Regarding claim 18, Schafer et al disclose a head control stand as described above wherein the container is made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14. Each of those elements formed from PVC or polyethylene pipe (see column 2, lines 22-25).

Regarding claim 24, Schafer et al disclose a head control stand as described above comprising a linkage cord 44 between the float and the valve. Schafer et al further disclose an adjustable clip 48 on cord 44 at the top of the float whereby the clip serves as a linkage latching mechanism for fixing the length of the linkage cord between the float and the valve (see column 3, lines 7-15).

Regarding claim 25, Schafer et al disclose a head control stand as described above comprising adjustable clip 48 and tied off 50 that both comprise means for raising a float height.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3673

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson, as applied to claim 1 above, in view of Schafer et al (4,621,945).

Carson discloses a valve for liquid containers as described above wherein the invention comprises a box for containing the valve. Note that the invention is broadly titled a "valve for liquid containers." Also note that disc valve 18 functions as a flapper valve to contact valve seat 17. Carson further discloses a rigid disc valve 18 connected to the float and arranged to seat on a valve seal 17 as a seal for the valve.

However, Carson fails to explicitly state that one of the containers for use with the valve includes a riser. Carson also fails to state that the rigid plate adjoins a flexible seal.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2).

Regarding claim 5, Schafer discloses the use of a rigid plate 30 adjoined to an O-ring 33 and a seal ring 28 to prevent water from passing through the valve. As defined by *Merriam-Webster Collegiate-Dictionary, 10<sup>th</sup> Edition*, an O-ring is a ring, as of synthetic rubber, which is flexible, used as a gasket, which is also flexible.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Carson and place the automatic valve in a riser, as taught by Schafer



Art Unit: 3673

et al because Carson clearly discloses that the valve is for use in liquid containers. Schafer et al clearly teach the use of a similar valve in a riser pipe container, which is also a liquid container.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to would have been obvious to incorporate a flexible seal, as taught by Schafer et al, to the rigid plate of Carson, because doing so provides a more secure seal that better resists liquid flow through the rigid valve disc, thereby enhancing performance of the invention.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer et al as applied to claim 1 above in further view of Porter (5,456,235).

Schafer et al disclose the invention as described above comprising a float 42.

Regarding claims 7 and 8, Schafer et al disclose a head control stand as described above comprising a linkage cord 44 between the float and the valve. Schafer et al further disclose an adjustable clip 48 on cord 44 at the top of the float whereby the clip serves as a linkage latching mechanism for fixing the length of the linkage cord between the float and the valve (see column 3, lines 7-15).

However, Schafer et al fail to disclose that the float comprises closed-cell foam in a plastic shell.

Porter discloses a system for pumping fuel liquid comprising a float valve 57 formed out of a closed cell plastic foam material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to form the float for the valve of Schafer et al from closed cell plastic foam material, as taught by Porter, because such material is commonly used as the float because of its buoyant properties.

Art Unit: 3673

Furthermore, Porter specifically uses the material as a portion of a valve for fluid flow regulation.

9. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer et al as applied to claim 1 above.

Regarding claim 1, Schafer et al disclose a head control stand as described above comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets.

Schafer et al disclose a head control stand as described above wherein the container is made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14. Each of those elements formed from PVC or polyethylene pipe (see column 2, lines 22-25).

Although, Schafer et al fail to disclose that the container, inlet and outlet are molded as one piece and that the container itself comprises a corrugated pipe. It would have been obvious to mold all pieces as one as a matter of convenience wherein the riser pipe 12 and junction pieces 24a,b form a unitary piece for ease of installation. Furthermore, Schafer et al disclose that the riser pipe comprises the same material as the junctions and tile system pipes. It would have been obvious and a matter of design choice to provide a corrugated pipe at as the main material of the riser portion.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark as applied to claim 15 above, in further view of Dudley (5,915,408).

Art Unit: 3673

Clark discloses that the separator valve as described above may be adapted to be used in conjunction with holding tanks, catch basins and the like (see column 10, lines 65-69).

However, Clark fail to explicitly disclose a removable grate structure.

Dudley discloses a float valve assembly for sampling uses in an upper catch basin (see column 3, lines 40-50) wherein the catch basin comprises a removable grate structure 14 (see Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the catch basin application of Clark's invention to comprise a removable grate, as taught by Dudley, because catch basins incorporate grates to filter out large undesired objects from entering the basin. The grates also protect pedestrians and passers-by from falling into the basin.

11. Claim 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (5,348,041).

Clark discloses a separator valve for control of liquid comprising a container 2 having an inlet 100, an outlet 5 and a closed bottom surface 101 (see Fig.1). Clark further discloses a primary float 1 that rises and falls in response to liquid level in the container. Clark further discloses a valve disk 13 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids from liquids in the container because the solids will naturally

Art Unit: 3673

sink to the bottom of the container 2 upon entering via the inlet 100. This is inherent and explained by the common law of physics regarding gravitational forces.

Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids and liquids from a base liquid with denser liquids and solids sinking to the bottom and less dense liquids floating to the top. Again, this is inherent and explained by the common law of physics regarding gravitational forces. Furthermore, Clark states that the invention is used to control unwanted discharge of liquids less dense than water that may be present in wastewater flows (see abstract). Clark specifically states "liquids less dense than water," which includes first, second, third and any other liquids that are less dense than water.

Although Clark fails to explicitly disclose a method for controlling liquid, it would have been obvious to one of ordinary skill in the art at the time of the invention to develop the method steps claimed by the applicant of the present invention, from the Clark disclosure, because Clark's disclosure provides the basic method steps required to use the disclosed invention.

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oshima (JP-63142113-A), Rodieck (3,951,163), Steinke (4,091,624), Proulx (5,020,567), Perez (5,918,622), Mirto (3,974,654), Roosa (4,922,556), Clark (5,161,564) and Northup (2,896,904) disclose features pertinent to the present application.

Art Unit: 3673

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms



HEATHER SHACKELFORD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600